

REMARKS/ARGUMENTS

Applicants acknowledge receipt of the Office Action dated October 6, 2006. Claims 1-27 are pending in the application. Claims 1-19 have been allowed. Applicants thank the Examiner for allowance of claims 1-19. Please note that claims 1 and 20 are independent claims. Claims 20-25, and 27 are rejected under 35 U.S.C. § 102(a) as being anticipated by *Ihm*, U.S. Patent Application No. 2002/0076846 (“*Ihm*”). Claim 26 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Ihm* in view of Shultz, U.S. Patent No. 6,126,740 (“*Shultz*”). Applicants believe all pending claims are allowable over the art of record and respectfully request reconsideration and allowance of all claims.

I. Claims 20-25 and 27 are not anticipated by *Ihm*.

Applicants respectfully traverse the Examiner's rejections of claims 20-25 and 27 under § 102(b) as being anticipated by *Ihm*. In order to establish a *prima facie* case of anticipation, the Examiner must show that each and every element of the claims is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). If a single element is not found in the prior art reference, the claims are not anticipated. Applicants respectfully disagree that *Ihm* anticipates claims 20-25 and 27.

Applicants assert that *Ihm* does not disclose all the elements of claims 20-25 and 27. Claim 20 is an independent claim upon which claims 21-25 and 27 depend. Claim 20 recites “wherein the semiconductor coating coats at least a portion of the nanoparticle at a thickness of at least 100 nm.” *Ihm* does not disclose such a limitation. Instead, *Ihm* is directed to coating nanotubes with a very thin protective coating less than 100 nm. *Ihm*, paragraph [0021]. For example, *Ihm* states “the carbon nanotube (10) is coated . . . at a thickness of several nanometers (nm).” *Ihm*, paragraph [0021]. Consequently, *Ihm* does not expressly disclose each and every element of claim 20.

Therefore, because *Ihm* does not disclose each and every element of independent claim 20, it does not anticipate claim 20 or dependent claims 21-25 and 27 and the Examiner's current rejection is moot. As such, the Applicants respectfully request withdrawal of this rejection.

II. Claim 26 is patentable over *Ihm* in view of *Shultz*.

Applicants respectfully traverse the Examiner's rejections of claim 26 under § 103 as being unpatentable over *Ihm* in view of *Shultz*. In order to establish a *prima facie* case of obviousness, the Examiner must meet the following three elements: 1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings; 2) there must be a reasonable expectation of success; and 3) the prior art reference(s) must teach or suggest all the claim limitations. *MPEP* § 2143 (2005) (citing *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991)). If just one of these elements is not met, the Examiner has failed to establish a case of obviousness. Applicants respectfully submit that the Examiner has failed to make a *prima facie* case of obviousness in rejecting claim 26.

Claim 20 is an independent claim upon which claim 26 depends. Claim 20, as amended, recites “wherein the semiconductor coating coats at least a portion of the nanoparticle at a thickness of at least 100 nm.” Nowhere does *Ihm* recite such limitations. As discussed above, *Ihm* is only directed to **very thin** coatings of few nanometers for protective purposes. *Ihm*, Abstract. In fact, *Ihm* teaches away from coating nanoparticles with a thickness of at least 100 nm. For example, *Ihm* explains that “electron scattering can be greatly reduced by making the semiconductor or insulating layer as thin as possible.” *Ihm*, paragraph [0022]. In addition, *Ihm* teaches “the thinness of the layer greatly increases the emission of electrons under low voltage.” *Ihm*, paragraph [0026]. Moreover, *Ihm* specifically states that the layer should be only “at a thickness of several nanometers.” *Ihm*, paragraph [0021]. In view of the above, *Ihm* plainly does not teach or suggest wherein the semiconductor coating coats at least a portion of the nanoparticle at a thickness of at least 100 nm.

Likewise, *Ihm* in combination with *Shultz* does not teach or suggest wherein the semiconductor coating coats at least a portion of the nanoparticle at a thickness of at least 100 nm. *Shultz* is only directed to spray depositing a suspension of nanoparticles consisting of entirely metal chalcogenides such as CdS or CdSe. *Shultz*, column 7, line 24 to column 8, line 61. *Shultz* does not discuss any methods by which one skilled in the art could apply a coating to a nanoparticle. Thus, *Ihm* in combination with *Shultz* does not teach or suggest the semiconductor coating coats at least a

portion of the nanoparticle at a thickness of at least 100 nm and, therefore, does not teach or suggest all the limitations of claim 20.

Since independent claim 20 is submitted to be allowable, dependent claim 26 must *a fortiori* also be allowable, as it carries with it all the limitations of claim 26. Applicants therefore respectfully submit that the Examiner has not shown an element in a *prima facie* case of obviousness in rejecting claim 26, because, contrary to MPEP § 2143, the Examiner has failed to cite references that teach or suggest all of the elements recited in the rejected claims. Accordingly, Applicants respectfully request that the Examiner withdraw the § 103 rejections and allow claim 26.

III. Allowable Subject Matter.

Claims 1-19 have been allowed. Applicants acknowledge allowance of claims 1-19 and thank the Examiner for allowance of these claims.

IV. Conclusion

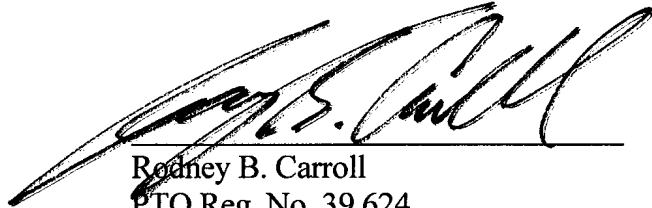
Applicants respectfully request reconsideration, allowance of the pending claims and a timely Notice of Allowance be issued in this case. If the Examiner feels that a telephone conference would expedite the resolution of this case, the Examiner is respectfully requested to contact the undersigned.

In the course of the foregoing discussions, Applicants may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the prior art that have yet to be raised, but which may be raised in the future.

Appl. No. 10/534,452
Response to Office Action
Dated October 6, 2006

If any fees are inadvertently omitted or if any additional fees are required or have been overpaid, please appropriately charge or credit those fees to Conley Rose, P.C. Deposit Account Number 03-2769.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Rodney B. Carroll", is written over a horizontal line.

Rodney B. Carroll
PTO Reg. No. 39,624
CONLEY ROSE, P.C.
P.O. Box 3267
Houston, TX 77253-3267
(713) 238-8000 (Phone)
(713) 238-8008 (Fax)
ATTORNEY FOR APPLICANTS